

# Northwestern University



*on the air*

## The Reviewing Stand

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### Should We Worry About The Increase In World Population?

*A radio discussion over WGN and the Mutual Broadcasting System*

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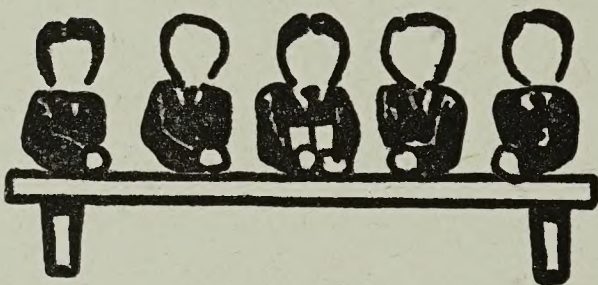
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# Should We Worry About The Increase In World Population?

ANNOUNCER: Should we worry about the increase in world population?

MR. FAIRCHILD: Yes, I certainly think we should worry. The population of the world has much more than doubled in the last 150 years and stands now at about 2,200,000,000. Now just imagine its doubling again in the next 150 years, and then once more, etc.

MR. HAUSER: I say there is no cause to worry, if we use the knowledge we already have and the additional knowledge which research can make available for dealing with population problems.

MR. YOUNG: Mankind is too emotionally involved in tradition to be willing in the foreseeable future to apply the facts of science to population problems. For example, the teeming millions of the Orient won't learn for a long time to come to apply scientific means to limit the birth rate.

MR. KLOPSTEG: If by worry we mean to think about the problem intelligently and do something about it constructively, the answer is "yes," because the increase in population of the world unquestionably is one of its greatest problems.

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MR. BUCHANAN: Our guests today are Philip M. Hauser, United States Representative on the Population Commission of the United Nations and Professor of Sociology at the University of Chicago; Henry Pratt Fairchild, Professor Emeritus of Sociology at New York University and author of the highly controversial book, *Race and Nationality*; Kimball Young, author of several important books on social psychology and Chairman of the Department of Sociology, Northwestern University; and Paul E. Klopsteg, Professor of Applied Science and Director of Research, Technological Institute, Northwestern University.

Fairchild, we have indicated here that the population of the world is increasing. Just how rapid is this increase? Is it limited to, say, specific geographic areas?

## Increase of Population Is Rapid

MR. FAIRCHILD: Well, Buchanan, there are several ways of expressing the rapidity of that increase. I indicated one a moment ago. You can also put it this way: It took roughly a million years to roll up a total for the world as a whole of 900,000,000 people, then in the next century and a half we added one and one-third billion to that number. Or you could put it another way. Take the United States; it has increased about 36 fold in the hundred and fifty years of our national life. Or take it in terms of the continents. A strange thing, Buchanan, is that for the last few decades the countries of dense population in the eastern half of the world have been increasing at a faster rate than those of the western hemisphere and Europe. For instance, the continent of Asia during the years 1800 to 1933 piled up an increase exactly equal to the total population of Europe in that last year. The single country of India is increasing at such a rate now that if it were to go on, in 25 years or so the increase in India would be greater than the total population of the United States. It is a very rapid increase and it does show up differently in different parts of the earth's surface.

MR. BUCHANAN: Are there any patterns of growth in such an increase, Hauser?

#### Population Patterns Discernible

MR. HAUSER: Yes, there are very definite patterns of population growth discernible in the different areas of the world. In fact, I should say in response to what Fairchild has just outlined that the population growth has been more rapid than at any time in the history of the world—in Western Europe and in Northwestern Europe particularly and in the United States, the same part of the world which now shows a pattern of imminent population decline. The pattern of imminent population decline, then, is one very definitely discernible pattern of population growth which includes Europe, the North American continent, Australia, and New Zealand.

MR. BUCHANAN: What do you mean when you say "imminent population decline"?

MR. HAUSER: I mean that the birth rate in these areas of the world has been declining at a rate so rapid that in the very near future—within the course of the rest of this century—most of these nations will reach a point of population maximum and then a period of actual population decline.

MR. YOUNG: It seems to me we ought to stress that the increase in population has been largely due to the decreasing death rate and not to an over-all increase in births. Due to applied medicine, the death rates in the world have been sharply declining in recent decades and will continue to do so for some time to come. But in Western Europe, in this country, and in the British dominions there has been a sharp drop in the birth rate. In contrast, in the Far East, particularly in China, India, and partly in Japan and Malaya, the decline in death rates has not been equalized by a decrease in the birth rate. As a result, stabilization of population in these regions will not occur, at least, for some time to come.

MR. BUCHANAN: What about scientific progress in increasing production of food, clothing, and shelter? Does that offer an answer to the population problem, Klopsteg?

#### 'Scientific Progress Is No Answer'

MR. KLOPSTEG: There has been a good deal of scientific progress and development, but when you consider that the total number of tillable acres in the world is fixed, and the problem of producing food on those tillable acres is one that may eventually result in possibly doubling the production, it seems that scientific progress is only a palliative and not an answer.

MR. YOUNG: There are about 4 billion acres of arable land in the world. It is estimated it takes  $2\frac{1}{2}$  acres to support one person in what we in this country consider an adequate standard of living. With the present population indicated by Fairchild a minute ago, we have  $1\frac{3}{4}$  acres per person. In other words, as Sir John Boyd Orr recently said, about  $\frac{2}{3}$  of the world's population is perennially and perpetually undernourished.

MR. FAIRCHILD: That is perfectly true, Young. It has been well established that in China, for instance, there has been, on the average, one famine every year for the past two thousand years.

#### Death Rate Important

And, isn't it true that in the United States our official death rate—we are

now talking about the crude death rate—actually leveled off about 25 years ago and has remained almost at the same point, around 11 roughly. And personally, I see no reason to anticipate that that death rate is going to decline any further in the future, but rather I expect an increase.

MR. BUCHANAN: I don't understand that "crude death rate" and what is that figure of 11? Could you explain that further?

MR. FAIRCHILD: Yes, indeed, Buchanan, I will be glad to. We call this the crude death rate, which very roughly is the number of deaths per year for each average 1,000 of the population. We treat the population as if it were composed of uniform thousands of people, and then we see how many of each of those thousands die. That is what we call the "crude" death rate, and it is now running just around 11.

MR. BUCHANAN: Eleven out of each thousand, then, die each year?

MR. FAIRCHILD: That's right.

#### Effect of Industrial Revolution

MR. HAUSER: Although I agree with Fairchild's remarks, it is still clear that the point Young made is basically important. It is true that the death rate in the United States may not be expected to decline much more, that is this crude death rate that Fairchild has just explained. In fact, it may be anticipated that it may go up in the coming years as the population in the United States on the average grows older because of the declining birth rate. But the important thing to catch in Young's remark, I think, is that the tremendous population growth in Western Europe and in North America was brought about under the impact of the industrial revolution, not by an increase in the birth rate, but by a great decrease in the death rate.

MR. KLOPSTEG: Some of us amateurs in sociology are inclined to think that war is one of the great causes of decline in population. How important a factor is war?

MR. FAIRCHILD: Well, it is, of course, a very popular illusion, Klopsteg. People talk about the desirability of having a good war once in a while as a sort of a purge of surplus population. As a matter of fact, modern wars certainly do not have that effect, not only because a modern war destroys the bases of supporting population at least in the same proportion as it destroys the population itself, but also because the reproductive capacity of the human species is such that the numerical losses of war are very, very rapidly made up. I don't know what the exact figures are, but from what we are told, during the period of the last war the growth in total world population was probably at least twice the total loss of life on account of the war. So there is no hope in that respect.

MR. BUCHANAN: You mean that even in times of war, population is increasing at a great rate?

#### World Population Still Increasing

MR. FAIRCHILD: It certainly is. I have recently seen a figure on that. I can't vouch for it because I don't know who is responsible for it. But right along, during the war, and now, the population of the world is increasing about 17 million a year.

MR. HAUSER: During the course of the war, the population of the world may well have increased somewhere between 150 or 200 millions. That would represent in terms of present population trends about ten years growth.

MR. BUCHANAN: In one year?

MR. FAIRCHILD: No, in the course of the war.

MR. BUCHANAN: Approximately five years, then.

Let us break down that increase into various portions, say in the East, in India and China. Are population conditions there on a greater increase than they are in the United States?

MR. HAUSER: The Orient is where we have the basic problem of future high or potentially explosive population growth apparent. The Orient has been increasing at a rate of something less than 1% per year up to the turn of the century and has since turned upward to where it may be soon approximating  $1\frac{3}{4}$  a year.

MR. BUCHANAN: Isn't 1% a low figure for a population increase?

#### Rate of Increase Is High

MR. HAUSER: One per cent may seem low when it is taken in terms of interest on investment, but in terms of population increase, a rate of 1% is terrifically high and could not possibly be sustained for very long. For example, a single couple which might have started out 10,000 years ago, had they continued to increase at a rate of 1% per year would have resulted in a population in the world today of something like 16 million followed by 36 zeros.

MR. FAIRCHILD: Well, in other words, Hauser, can't we put it this way: Malthus was pretty near correct, it seems to me and always has seemed to me, when he undertook to interest the potential growth of human population in terms of a geometric ratio, because that is really what it is. If you have a pair of any species that produces 4 offspring, then you have 2 pairs producing 8 offspring, and so it goes. And every geometric ratio moves toward infinity and at a prodigious rate no matter what the particular multiplier may be.

And if I may go back to what you said a moment ago, Hauser, you used the phrase, *explosive population*. I have noticed that phrase is rather current. What actually do you mean by an *explosive* population?

#### 'Explosive Potential Rate'

MR. HAUSER: What I have in mind is an explosive potential rate of growth, and I think the central problem of rapid population growth is the problem of the East.

MR. FAIRCHILD: But what is the *explosive*?

MR. HAUSER: It would be explosive if the population of the East should undergo the same cycle of population growth as did the Western Europe and the North American continent, a rate of increase which saw Europe increase five-fold within the course of three centuries and double within the last century, or a rate of increase which saw the North American continent increase by 100 times in the course of three centuries—an unusual case. If the general cycle of population growth in the Orient should follow the cycle of Western Europe under the impact of the industrial revolution, then by an *explosive* rate of growth I would mean a rate of growth which would, say, have the population of that area which now has half of the world's total population double within a century. Or take the case of Japan which more than doubled in the 70 years between 1870 and 1940.

MR. YOUNG: Hauser, isn't it possible, however, that if the Orient is industrialized in a manner similar to that of the Western World and this

country, the rate of population increase will go down, and that in time that population will level off in somewhat similar manner as it is leveling off in the Western World?

### Relationship of Birth, Death Rates

MR. HAUSER: In general, that is true, but we must remember that it took at least two centuries for the birth rate to come down at a rate which would parallel the greater decline in the death rate. And, if it should take a century or two centuries in the Orient for the birth rate to decline at a rate consistent with the decline in the death rate, the population may have grown so rapidly as to more than eat up the advantages of increased productivity in manufacturing or in agriculture and threaten not only the standard of living of those people, but also that of the world.

MR. KLOPSTEG: In that event, the only remedy in those countries is nature's present remedy, annual famine.

MR. HAUSER: No, decidedly not. And this takes me back to my earlier remark when I said there is no cause for worry. Enough is known now so that we can effect a great decrease in the death rate in these Eastern countries, and, also, if we apply the knowledge at hand, we can effect a decrease in the birth rate probably at a more rapid rate than it was actually experienced in the Western countries.

MR. YOUNG: How are you going to get these people in the Far East to cut down their birth rate, considering the obstacles of tradition and religious beliefs? How are you going to do it? They can understand medical practice in saving lives, but do they understand and will they accept the Western ideas about birth control?

### 'Problem Is Not Hopeless'

MR. HAUSER: I think the evidence there indicates that although the problem is a difficult one, it is by no means hopeless. A moment ago, for example, I cited the example of Japan which more than doubled its population within less than a century, and there is ample evidence . . .

MR. FAIRCHILD: Look what happened! War!

MR. HAUSER: Yes, but there is ample evidence to indicate, in response to Young's question, that the control of population growth made progress in Japan before the war and is probably going to continue to make rapid progress.

MR. FAIRCHILD: Hauser, I admit it is a relief to find somebody who is a little bit optimistic about this, but I wish I could believe the optimism was a little better founded. It seems to me that you have fallen into one of the most dangerous fallacies that affect this whole population discussion when you seem to assume that the same sort of result can be achieved by the industrialization of the Far East or of the Eastern hemisphere in the 20th century that has been achieved in the Western hemisphere and United States, in particular during the 19th and this much of the 20th century. Now, I think we have to remember that all this industrial technique and the development of new machines and new types of production took place in connection with the opening of a whole half of the earth's surface, of great unexploited and almost untouched natural resources. Now nothing like that can ever happen again.

MR. YOUNG: But, Fairchild, let us ask Klopsteg about the scientific possibilities of other kinds of resource frontiers.

MR. FAIRCHILD: Yes, I certainly would like to hear that.

MR. KLOPSTEG: The only possibility I can see for increasing resources—by which I mean resources in food, primarily—would be either technologically increasing the productivity of our acres or possibly achieving something in the nature of production of food in three dimensions rather than on a flat area, such as the growth of penicillin mold.

MR. BUCHANAN: I don't understand the 3 dimensions. What do you mean by that?

MR. KLOPSTEG: Penicillin, you remember, was grown on a surface and the production was extremely small, but when scientists began to grow it in large vats where they could grow it throughout the volume, the production was greatly increased.

MR. BUCHANAN: You think we might do the same with other food elements?

MR. KLOPSTEG: There have been examples of growth in proteins in vats by the use of yeasts, for example.

#### What Happens to Soil?

MR. FAIRCHILD: Klopsteg, don't we have to take account of the deterioration of the soil itself under modern methods?

MR. KLOPSTEG: If we are going to keep soil producing, we have to supply the fertilizers exhausted by the plants.

MR. HAUSER: The population no longer grows in accordance with natural laws unaffected by the development of human institutions, including technology—technological advance in manufacturing and technological advance in agriculture. As a result of the remarkable technological changes, man through his culture has profoundly affected the way in which human population grows. Now the parallel problem—and the problem which is posed for us—is really: Can man now control his population growth in relation to resources to maintain a proper equilibrium between population growth and resources on a world-wide basis? And the optimism which I have expressed—if it be optimism—is based on the fact that we have enough knowledge which, if applied, will make that possible. The question of whether it *will* be applied, I agree, is a debatable question.

#### Nature Exercises Control

MR. FAIRCHILD: Hauser, I am awfully glad you brought in that point about nature's method of controlling, because I think we have to recognize that nature does control population and controls it very rigidly. If the tendency of every species in nature is to multiply at a geometric ratio, it is obvious that some control has to be exercised. When you face the matter squarely you realize there are only two points in the experience of a living organism at which control can be exercised: one is through death and the other is through birth. Now nature exercises her control exclusively through death. There is no birth control of any kind whatsoever in nature; while on the contrary it achieves a rather remarkable result. In nature every old species manifests a stationary population. In the long run there is no increase in the

population of natural creatures whatsoever. Also, it is only by the application of distinctly human resources that mankind is able to carry on any increase at all.

#### Would Immigration Help?

MR. YOUNG: We have spoken about these patterns of growth and stability and even decline. People frequently will talk about this matter in terms of further immigration. Why shouldn't we take in a large number of immigrants from these crowded areas? Wouldn't this help solve the problem?

MR. FAIRCHILD: We have taken in 33 or 34 million in the last 120 years, and still the problem seems to grow. I realize that your question poses what I am sure many people recognize as a very important moral and ethical problem. But I think we can just look at it this way: In about 1800 there was, as I said, a whole half of the earth's surface undeveloped, there were seemingly unlimited resources, and men were allowed to migrate. Now, 150 years later, we find the condition even worse than it was then, whereas now we have no new land to exploit and we have 2,200,000,000 people to take care of.

#### Science of Demography

MR. HAUSER: But there is one very important difference. In 1800 man was by no means aware of the way in which his culture had affected and does affect population growth. We have learned a good deal since then. The science of demography and other sciences have taught us much about the way a population grows and the related factors. Today we have learned how to control population growth. That is, there is enough knowledge available to enable us to control population growth. Unfortunately, the application of population controls has been restricted to date only to that part of the world which has already experienced the industrial revolution, namely Western Europe and North America.

MR. YOUNG: Would you expect, Hauser, that as these other sections of the world are industrialized there will necessarily follow the ideas and practices that have to do with population restrictions? Is there any reason to believe that the building of a factory is going to change people's ideas and practices in regard to population restriction?

#### 'We Have Responsibility'

MR. HAUSER: There is no reason to believe that it will automatically follow. I think that poses a central problem. If we assume responsibility—and we have had some responsibility for the diffusion of our industrial culture to the rest of the world—it is clear that along with increased productivity in industry and agriculture we must transmit information about the control of population growth.

MR. BUCHANAN: In increasing the agricultural production, Klopsteg, what is the matter with developing more land? Certainly in the tropics there are areas which are not under agricultural process today.

MR. KLOPSTEG: I think anyone who has seen the land in the tropics and the avidity with which tropical vegetation swallows it up will know the answer. It can't be done without a tremendous amount of labor—perhaps more labor than can be applied.

MR. BUCHANAN: What about the lands we already have in the agricultural process? Can't we use new fertilizer?

MR. KLOPSTEG: Yes, we can, but, as I pointed out before, we then have the problem of finding and supplying the fertilizer. When we go to chemical fertilizers the quality of the product is probably less good than the quality of the product when organic fertilizers are used.

MR. FAIRCHILD: Remember the type of force we are dealing with. We are dealing with a force that tends toward infinity in a definitely finite world. Now our one real enduring resource is science, of course; it must be a combination of the physical sciences, the medical sciences, and social sciences. The fact remains, however, that never in human history has any group of people of any size over any length of time been able to improve its technique of living, its method of production fast enough to take care of its population increase. If we couldn't do that in the 18th and 19th and early 20th century, I see no hope whatever that it can be done in the future.

MR. HAUSER: Population problems are really matters of national policy and international policy concern.

MR. FAIRCHILD: I agree with you absolutely.

### Population Is National Problem

MR. HAUSER: It is already clear that a number of countries have made the population problem a matter of important national policy. England, Sweden, and France are notable examples. The population problem must be recognized by those nations in which potentially it can create the most distressing and severe results. Each nation, in the last analysis, must devise a policy and deal with its problem from within.

MR. FAIRCHILD: Do you think it is going to be possible to overcome or offset or neutralize the influences of traditions and belief and mores and practices and prejudices sufficiently so that this scientific work can be done?

MR. YOUNG: Can you get the family system of China changed by science? Can you get the real attitudes of the Hindus changed by science in any foreseeable future?

MR. HAUSER: The record shows that many changes in culture have already been achieved. And it is to be hoped that science can accelerate social changes in a manner that will be beneficial to mankind.

MR. FAIRCHILD: In the last analysis it is a problem that the people in each particular nation must solve; its solution cannot be imposed from outside.

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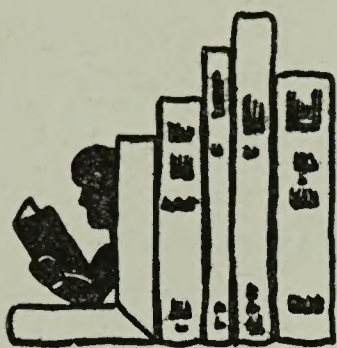
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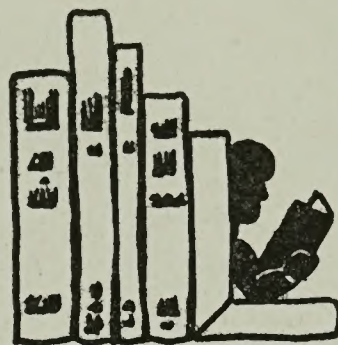
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## Suggested Readings

Compiled by Miss Eleanor F. Lewis,  
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Burch, G. I., and E. Pendell. *Population Roads to Peace or War*. Washington, D. C., Population Reference Bureau, 1945.

Analyzes aspects of the population problem.

Condliffe, J. B. *The Economic Pattern of World Population*. Washington, D.C., January, 1943. Planning pamphlets No. 18.

This study indicates the pattern of human resources on which post-war reorganization must be based.

Fairchild, Henry Pratt. *People: The Quantity and Quality of Population*, 1939.

Landis, Paul H. *Population Problems: A Cultural Interpretation*. New York, American Book Company, 1943.

Stresses the social meaning of population data.

Milbank Memorial Fund. *Demographic Studies of Selected Areas of Rapid Growth*. New York, Milbank Memorial Fund, 1944.

Prints the proceedings of the Round Table on Population Problems presented under the auspices of Princeton University's Office of Population Research.

Mukerjee, Radhakamal. *Races, Lands, and Foods; A Program for World Subsistence*. New York, Dryden Press, 1947.

Suggests that people from the overpopulated parts of Asia be encouraged to migrate to unpopulated tropical and subtropical areas.

Pearson, Frank A., and F. A. Harper. *The World's Hunger*. Ithaca, N. Y., Cornell University Press, 1945.

The final chapter discusses the relation of food to population problems.

Princeton University. Office of Population Research. *The Future Population of Europe and the Soviet Union*. New York, Columbia University Press, 1944.

This first comprehensive study on population projections, covering the years 1940-1970, was compiled under the editorship of Professor Frank W. Notestein and should be useful to the peacemakers.

Thompson, Warren S. *Plenty of People*. Lancaster, Pa., The Jaques Cattell Press, 1944.

Includes chapters on the population growth of the world since 1800, the political and economic implications of differential national growth, and some considerations in formulating a population policy for the United States.

Harper. 196:97-104, F., '48. "Too Many People." C. L. Walker.

Quotes from the State Department Report, OIR 4122, *World Population Estimates*, 1947. Poses the question as to which will win the race, food supplies or population.

Hygeia. 25:764-5+, O., '47. "Our Aging Population; What Does It Mean?" R. J. Havighurst.

Predicts that, if present birth and mortality rates remain constant, by 1980

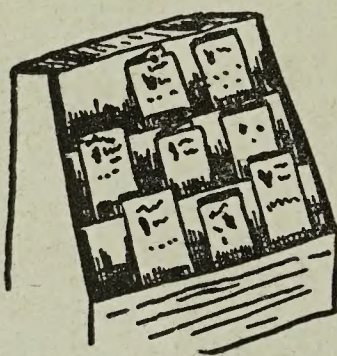
the majority of our population will be over 60 years of age. This may influence such social conditions as recreation, housing, and political trends.

*Social Forces*. 25:1-9, O., '46. "Population and Power: Some Comments on Demographic Changes in Europe." Kimball Young.

States that the changes in power relations of Europe are linked with the increase in population, resources, and industrialization of the Soviet Union, in contrast with the relatively stable population and maturity of Western Europe.

*U. S. News*. 23:19-21, O. 24, '47. "More Millions of Americans."

Predicts that high birth rates and low death rates will increase the demands for farm products, utilities, and building.



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| 3. Behind the Iron Curtain.                                     | 9. What Is Government's Role in Scientific Research? |
| 4. What Is America Reading?                                     | 10. The Fight Against Tuberculosis.                  |
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